

REMARKS

Reconsideration of this application as amended is respectfully requested.

In the Office Action, claims 2-7 and 9-17 were pending. Claims 2-7 and 9-17 were rejected. In this response, no claim has been canceled. Claims 2, 6, 9, and 13-17 have been amended. No new matter has been added.

Claims 14 and 16 are rejected under 35 U.S.C. § 112, first paragraph and second paragraph. Claims 2-7 and 9-17 are rejected under 35 U.S.C. § 112, second paragraph.

In view of the foregoing amendments, it is respectfully submitted that the above rejections have been overcome.

Claims 2-4, 6, 9-11, 14, and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 5,559,624 by Darcie. Claims 2, 6, 9, and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Darcie in view of U.S. Patent Number 6,317,234 by Quayle. Claims 5, 7, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Darcie in view of U.S. Patent Number 6,639,931 by Dowd et al. (hereinafter “Dowd”). Claims 5, 7, 12, 15, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Darcie in view of U.S. Patent Number 6,160,647 by Gilliland et al. (hereinafter “Gilliland”).

It is respectfully submitted that claims 2-7 and 9-17 as amended include limitations that are not disclosed by the cited references, individually or in combination. Specifically, independent claim 2 recites as follows:

2. A method comprising:

establishing a plurality of transmission time slots, each time slot corresponding to one of a plurality of optical transmitters coupled to a head end via an interleaving device;

forming a bit interleaved optical data stream at the interleaving device based on a plurality of optical bits transmitted by the plurality of optical transmitters during a

respective time slot associated with each of the optical transmitters, each of the optical transmitters transmitting only one optical bit to the interleaving device within each respective time slot; and

transmitting the bit interleaved optical data stream from the interleaving device to the head end over an optical network.

(emphasis added)

Independent claim 2 includes establishing multiple transmission time slots for each of the local optical transmitters, forming a bit interleaved optical stream at an interleaving device coupled to the optical transmitters, where each of the bits is transmitted within the respective time slot associated with each transmitter and each transmitter can only transmit one optical bit within each respective time slot, and transmitting the bit interleaved optical data stream from the interleaving device to the head end. It is respectfully submitted that the above limitations are not disclosed by Darcie.

Rather, Darcie discloses transmitting TDM signals within multiple time slots, where each time slot is used to transmit a packet of information to the respective ONU (see, col. 4, lines 54 to 60 of Darcie). One with ordinary skill in the art would consider that a packet of data has more than a bit. Although Darcie indicates that bit interleaving techniques may be used, however, it is respectfully submitted that Darcie fails to provide sufficient detailed information to enable one with ordinary skill in the art, based on the teachings of Darcie, to implement such techniques. Specifically, Darcie fails to disclose or suggest that each transmitter can only transmit one optical bit within each respective time slot.

It is respectfully submitted that other cited references, such as Quayle, Dowd, and Gilliland also fail to disclose or suggest the above limitations. There is no teaching or suggestion to combine these cited references. It would be impermissible hindsight, based on Applicant's own disclosure, to combine these cited references. Even if these references were

combined, such a combination would still lack the limitations recited in claim 2. Therefore, for the reasons discussed above, independent claim 2 is patentable over the cited references.

Similarly, independent claims 6, 9, and 13 include limitations similar to those recited in claim 2. Thus, for the reasons similar to those discussed above, independent claims 6, 9, and 13 are patentable over the cited references.

Given that the rest of the claims depend from one of the above independent claims, at least for the reasons similar to those discussed above, it is respectfully submitted that the rest of the claims are patentable over the cited references.

In addition, with respect to claims 14 and 16, these claims include limitations that each bit is transmitted via a 2.5 ns pulse within a 10 ns time slot. It is respectfully submitted that none of the cited references, individually or in combination, discloses or suggests these limitations.

Further, with respect to claims 15 and 17, these claims include limitations that the transmitting power may be increased to allow a peak power to exceed a predetermined threshold that would cause human eye damage, while maintaining an average transmitting power below the predetermined threshold. It is respectfully submitted that these limitations are also absent from the cited references.

The Examiner contends that Gilliland discloses lowering the transmitting power of laser for human eye safety (6/1/2004 Office Action, page 10). However, Gilliland is related to a semiconductor manufacturing using a laser device, rather than an optical network. Gilliland has nothing to do with transmitting an optical bit within a time slot. Particularly, Gilliland fails to disclose or suggest increasing optical transmitting power to allow a peak power to exceed a predetermined threshold that would cause human eye damage, while maintaining an average transmitting power below the predetermined threshold.

There is no suggestion within Darcie and Gilliland to combine with each other. As discussed above, Darcie is related to an optical network while Gilliland is related to a semiconductor laser for manufacturing. It is respectfully submitted that one with ordinary skill in the art, based on the teaching of Darcie and Gilliland, would not combine these two references. Such a suggestion can only be found in Applicant's own disclosure. Even if they were combined, such a combination still lacks the limitations set forth above.

Therefore, in addition to those as applied to their respective independent claims, claims 14-17 are independently patentable over the cited references. Withdrawal of the rejections is respectfully requested.

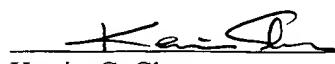
In view of the foregoing, Applicant respectfully submits the present application is now in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call the undersigned attorney at (408) 720-8300.

Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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Kevin G. Shao
Attorney for Applicant
Reg. No. 45,095

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300